

6. RECENT STRANDING INCIDENCES OF MARINE MAMMALS IN WEST BENGAL, INDIA

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One of the most fascinating features of Indian biodiversity is its marine mammals, which include members of seven different families under two Orders. The families Delphinidae, Phocoenidae, Physeteridae, Ziphiidae, Balaenopteridae and Balaenidae belong to Order Cetacea, and Dugongidae belongs to Order Sirenia. Records of marine mammals in India, along with its location status, are well-documented by Sathasivam (2000). There is some literature which gives taxonomic features, species abundance and status of conservation of the marine mammals in India (Corbet and Hill 1992; Molur *et al.* 1998; Agrawal and Alfred 1999; Lal Mohan 1999; Kumaran 2002; Alfred *et al.* 2005; Alfred *et al.* 2006). Literature review shows that there are a total of 408 mammal species recorded so far in India; this includes 29 species of marine mammals out of 120 recorded in world (Jefferson *et al.* 1993). According to the IUCN (2003) and Alfred *et al.* (2006), the status of marine mammals in Indian waters was; 3 endangered, 3 vulnerable, 8 insufficiently known and 6 under lower risk. However, the Indian Wildlife Act (1972, amended in 1991) (as mentioned in Alfred *et al.* 2005) lists only 4 species of cetaceans, i.e., Irrawaddy Dolphin, Ganges River Dolphin, Sperm Whale, and Dugong in Schedule I, and 15 species are included in Schedule II. Lack of adequate scientific information could not provide any status on the remaining species. The present paper covers recent stranding evidences of marine mammals, especially whales and dolphins, along West Bengal coast. This stranding record will help in fulfilling the information gap on this group by providing first hand baseline information of their abundance. The finding will also help the various ongoing and future research studies on this topic, as well as managers for successfully implementing conservation laws in the area. Comparison of earlier records of stranding on Indian coasts till 2000 shows that most of the incidences were recorded on the east than west coast. However, West Bengal had meagre incidences of occurrences of marine mammals. The state-wise sighting records of stranding of marine mammals in Indian coasts till 2000 is shown in Fig. 1.

During the present study, the first incidence occurred in the first week of May 2006 at Jhelampur beach near Mandarmoni in East Midnapore district, West Bengal. The stranding site was immediately visited to record observations on overall morphology, dimensions, flipper size, part of skeleton, and skull of whale. Some observations were also

made from indirect evidences like interviewing locals and fishermen. In addition to this incidence, another dead whale was recorded at the same place about a kilometre away on May 16, 2006. All the diagnostic features recorded were used to draw conclusion on species identification by using keys given in Prater (1980), Jefferson *et al.* (1993), and Agrawal and Alfred (1999). The following observations could be made from the available specimen in these two stranding incidences:

1. The overall morphology of the specimen was largely damaged, but some patches of intact skin appeared black dorsally and grayish ventrally.
2. The body length of the first whale was about 17 m and that of the second was 15 m of which the head was around 35%.
3. The jaw bones could be observed clearly with damaged baleen plates and bristles. The baleen plates were dark with horizontal grey bands. Head was V-shaped with a prominent central ridge over it.
4. There were around 65-75 ventral furrows.
5. Dorsal fin was distinct, but small and sharply angled and placed at the posterior 1/3rd of the back. It measures around 0.4-0.5 m, which was approximately 2.5% of body length. Pectoral flippers were sickle-shaped and curved towards the end. Tail fluke horizontally flattened and blade-shaped, which was not supported by bone.

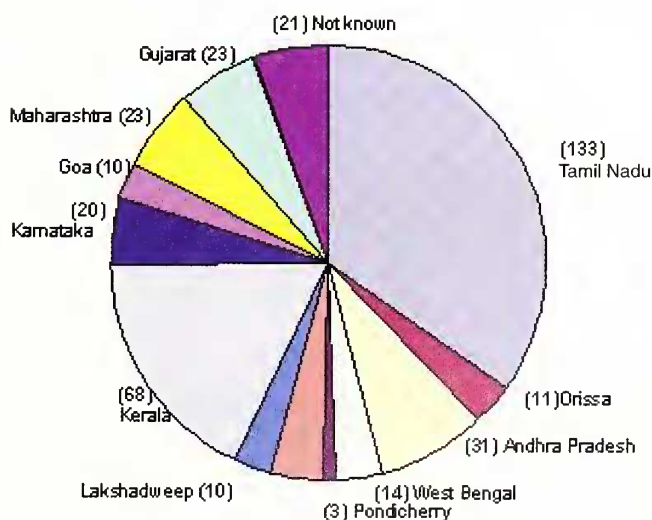


Fig. 1: State-wise sighting records of marine mammals in India

6. Dorsal fin, flippers and fluke black. Flippers and fluke white below.
7. Body colour was dark grey above and white underneath. Colour of head was not uniform dorso-ventrally. Upper jaw was grey with white fringes, however, lower lip and palate white in colour.
8. The undigested intestine or stomach mass largely contained crustaceans. As the whale died in open water before stranding, most of the gut content was decomposed and beyond identification up to species level.
9. Blow hole could not be noticed as a part of the head portion was detached.

From the recorded diagnostic features, it appears that these two species belong to Genus *Balaenoptera* under Family Balaenopteridae. Close observations of the distinguishing features suggests that it was a Fin Whale *Balaenoptera physalus* (Linnaeus). The prominent distinguishing features of Fin whales observed in the present case were asymmetrical coloration pattern, moderate sized dorsal fin, V-shaped head with pointed tip, gray baleen plates with white streaks and black back. Fin whales are distributed worldwide. In the Indian Ocean, there is a continuous presence of these whales. As far as the north-east coast is concerned, this is the first incidence of Baleen whale occurrence. In 1967, one dead whale species was recorded near Junput coastal area (Fisheries Dept. West Bengal pers. comm.); this species was, however, not identified. Sightings of Baleen whales were earlier reported off Kolkata and Mumbai coasts by de Silva (1987) (as reported in Agrawal and Alfred 1999), Sathasivam (2000) and Kumaran (2002) recorded 12 specimens of Fin Whale from Indian waters, which were mainly stranding and landings. Five vertebrae of one Baleen whale were also reported by de Silva (1987), which was displayed in Medical College, Kolkata, but the stranding site was not reported.

Along with these two whale stranding records, one small-sized dead sea mammal was also recorded at the same location about 100 m away on the morning of May 16, 2006. The overall morphology was not much damaged like in earlier incidences, except neck and abdomen portion. The diagnostic features of this mammal are as follows:

1. Colour of body was blackish dorsally and greyish ventrally.
2. Body length was about 2 m.
3. Mouth was located ventrally with powerful jaws and pointed snout. The teeth were flattened and around 16 in the upper jaw, the lower jaw was damaged.
4. Eyes were small and bulging.
5. Head was blunt without beak as in other dolphins and with a bulbous forehead and distinct neck.

6. Blow hole was damaged.
7. The pectoral fin was like flippers, which had curved edges and rounded tips.
8. Tail was narrow and compressed horizontally.
9. Dorsal fin was very small and the tip portion was damaged.

From the available evidences it appears that the species was of Order Cetacea, Family Delphinidae. It is commonly known as Irrawaddy Dolphin *Orcaella brevirostris* Gray. There are a few reports on sighting and stranding of Irrawaddy dolphins from Indian waters (Sathasivam 2000; Kumaran 2002). Along the east coast of India, the sightings were also reported by James *et al.* (1989) in Bhitarkanika Sanctuary, Dandapani (1992) in Chilka lake, and Miller (1997) in Chennai Coast.

The fourth incidence of a stranded dead marine mammal was recorded at Digha-Mohana on May 18, 2006. At first it appeared like some fish, but careful observation revealed that the animal was a mammal. The local fishermen informed that this mammal was stranded for 3-4 days. The diagnostic features recorded from this specimen are as follows:

1. Colour of the body was greyish-black with spots.
2. Body length was 2.3 m.
3. Mouth and teeth were damaged, but a beak-like structure could be seen from the skull.
4. The pectoral fin was flipper-shaped and falcate.
5. Tail was compressed and fluke notched in the middle.
6. Dorsal fin was black, backwardly pointed and located in the middle of the body.

From the available evidence, it appeared to be a Pantropical Spotted Dolphin *Stenella attenuata* Gray 1846. Sathasivam (2000) and Kumaran (2002) reported 13 specimens from Indian waters, de Silva (1987) reported 4 specimens.

It is noteworthy to mention that all these four cases occurred in the duration of one month and within a few metres. These incidences draw attention to the need for collective long-term monitoring studies in this area to determine the reasons and patterns of stranding. Movement of large vessels in the nearby port Haldia, one of the busiest ports in India, offshore and land-based pollution, and high sediment load through nearby estuaries are some of the existing threats in this area and should be considered when formulating further studies. The movement of large animals in such areas often cause accidents, which may prove fatal to the animals. Awareness among locals, fishermen and managers also need to be addressed for effective implementation of environmental and conservation laws. The present observation within a month indicates presence of these previously unreported mammals in the area. The area can be converted into an important eco-tourism site. This will be an added attraction

for the tourists in Digha, Shankarpur and Mandarmoni beaches already famous tourist destination for North-eastern states.

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7. SIGHTING OF LEUCISM IN SPOT-BILLED DUCK *ANAS POECILORHYNCHA* J.R. FORESTER, 1781 AND LITTLE GREBE *TACHYBAPTUS RUFICOLLIS* (PALLAS, 1754) IN DISTRICT DUNGARPUR, RAJASTHAN, INDIA

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Leucism is an abnormal plumage; though uncommon it occurs occasionally in many species. While albinism is a genetic mutation that prevents the formation of the pigment melanin, leucism occurs when this pigment is diluted causing paler plumage that is often cream or sometimes white.

On February 04, 2009, a single individual of Spot-billed Duck with white plumage was sighted in the Gamela pond of Chhota Bodigama village, Dungarpur, Rajasthan. The entire body was white, except for the head (Fig. 1).

Spot-billed Duck *Anas poecilorhyncha* J.R. Forester, 1781, is a large-sized widespread resident duck found all over the Indian subcontinent (Ali and Ripley 2001, HANDBOOK OF THE BIRDS OF INDIA AND PAKISTAN TOGETHER WITH THOSE OF BANGLADESH, NEPAL, BHUTAN AND SRI LANKA. Oxford University

Press, Bombay). Normal individual of Spotbilled Duck has scaly-patterned buffy grey and dark brown plumage.



Fig. 1: Spot-billed Duck *Anas poecilorhyncha* with leucism